CALS TEST NETWORK

CTN Test Report 92-020

AFTB-ID 92-004

Technical Publication Transfer Test Using

Litton Systems Canada Limited

MIL-M-28001A (SGML) MIL-R-28002A (Raster)

31 December 1992

Prepared for

Air Force Materiel Command

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Using Litton Systems Canada Limited

MIL-M-28001A (SGML)

MIL-R-28002 (Raster)

Quick Short Test Report

31 December 1992

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Contents

1. Introduction

1.1 Background

The DoD Computer-aided Acquisition and Logistics Support (CALS) Test Network (CTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The CTN is a DoD-sponsored confederation of voluntary participants from industry and government managed by the Air Force Materiel Command (AFMC).

The primary objective of the CTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards, formal and informal. Formal tests are large, comprehensive tests that follow a written test plan, require specific authorization from DoD, and may take months to prepare, execute, and report.

Informal tests are used by the CTN technical staff to broaden the testing base by including representative samples of the many systems and applications used by CTN participants. They also allow the CTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and to respond, in a timely manner, to the many requests for help that come from participants. Participants take part voluntarily and are benefited by receiving an evaluation of their latest implementation (interpretation) of the standards, interacting with the CTN technical staff, gaining experience in use of the standards, and developing increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test reported in this QSTR was to analyze Litton Systems Canada Limited's interpretation and use of the CALS standards in transferring technical publications data. Litton used its CALS Technical Data Interchange System to produce data in accordance with the standards and delivered it to the CTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFTB 92-04

Date of Evaluation: 20 January 1992

Evaluator:
George Elwood
Air Force CALS Test Bed
AFMC/ENCT
4027 Colonel Glenn Hwy
Suite 200
Dayton, OH 45431-1601

Data Originator:
Mark James
Litton Systems Canada Limited
5490 Canoga Avenue
P.O. Box 4241
Woodland Hills, CA 91365-4241

Data Description:
Technical Manual Test
1 document declaration file
1 DTD
1 TEXT file
1 Raster file

Data Source Systems:

Text/SGML

HARDWARE
Xerox 6085

SOFTWARE

Raster

HARDWARE
Kurzweil 5200 Scanner

SOFTWARE
Xerox Viewpoint

Evaluation Tools Used:

MIL-STD-1840A (TAPE)
- SUN 3/280
  - CTN *Tapetools* (v1.2.8) UNIX
  - Agfa Compugraphics *CALS* v40.4
- Cheetah Gold 486
  - CTN *Tapetools* (v1.2.8) DOS

MIL-M-28001 (SGML)
- Cheetah Gold 486
  - Exoterica *XGML* V1.2e3.2
  - Datalogics *ParseStation* v3.36

MIL-R-28002 (Raster)
- SUN 3/60
  - CTN Raster Tools
  - Rosetta Technology *Preview* V3.1
- Cheetah
  - Inset Systems *HiJaak* V2.02
  - SPC *Harvard Graphics* V3.0

Standards Tested:

MIL-STD-1840A
MIL-M-28001A
MIL-R-28002

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force Test Bed enclosed in a box IAW ASTM D 3951. The exterior of the box was not marked with the required magnetic tape warning label, MIL-STD-1840A, para. 5.3.1.3. although it was marked indicating it contained a magnetic tape.

The tape was not enclosed in a barrier bag or barrier sheet material as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed a lack of the required label indicating the recording density as required by MIL-STD-1840A, para. 5.3.1. No packing list showing all files that were recorded on the tape was included in the box.

3.2 Transmission Envelope

The 9-track tape received by the Air Force Test Bed contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The 1840A Tape was run through the AFTB *Tapetool* utility version 1.2.8. One note was generated during the evaluation of the tape contents of the tape labels.

A note was reported on the tape label version. MIL-STD-1840A permits the use of both versions three and four. The use of the most current standard should be used and noted.

3.2.2 Declaration and Header Fields

No errors were reported during the evaluation of the Declaration file and the file header records

4. IGES Analysis

No IGES files were included on the tape.

5. SGML Analysis

The text file parsed without reported error using the Exoterica *XGML Normalizer* parser. The file appeared to have been parsed using the Exoterica parser before being written to the tape.

The text file was parsed using the DataLogics *ParseStation* software and no errors were reported.

6. Raster Analysis

One raster image was included on the tape. The file was checked using the CTN *validg4* and no errors were reported. The file was converted using Rosetta Technologies *Prepare* without error. The resulting file was viewed and printed using Rosetta Technologies *Preview*. The image appeared to be complete and matched the sample file included with the tape. Hard copies of the image are included in the appendix to this report.

The file was converted on the PC using Inset Systems *HiJaak* to a PCX format. The resulting file was viewed on the screen using *Viewer* and Software Publishers *Harvard Graphics* 3.0. The *Harvard Graphics* 3.0 image was printed and is included in the appendix to this report.

7. CGM Analysis

No CGM files were included on the tape.

8. Conclusions and Recommendations

In summary,the MIL-STD-1840A tape from Litton Systems Canada Limited was basically correct. The tape could be read properly using the CTN *Tapetool* Software and only one note was generated during this procedure.

The text file was parsed without reported error using Exoterica's *XGML Parser*.

The raster file was reported as being a valid file using the CTN *validg4* software. The image was successfully converted, displayed, and hard copies made using two different software packages.

9. Appendix A - Tape Tool Report Logs

9.1 Tape Catalog

```
CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    MIL-R-28003 (1988) - Digital Representation For Communication Of
                         Illustration Data; CGM Application Profile
    ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Mon Jan 20 08:42:57 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set050

                                                                    Page: 1

                                                Record
                                                Format/     Block      Selected/
File Name                 File Type             Length  Length/Total  Extracted
-------------------------------------------------------------------------------
D001                      Document Declaration  D/00260 02048/000001  Extracted
D001G001                  DTD                   D/00260 02048/000002  Extracted
D001R002                  Raster                F/00128 02048/000008  Extracted
D001T003                  Text                  D/00260 02048/000003  Extracted

Catalog Process terminated normally.
```

9.2 Tape Evaluation Log

```
CALS Test Network Tape Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Mon Jan 20 08:42:54 1992

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1LCH801                                                              3

  Label Identifier: VOL1
  Volume Identifier: LCH801
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 3

*** NOTE  (ANSI X3.27; 8.3.1.8) - The Label Standard Version
    should be 4 to represent the current level of ANSI X3.27.

HDR1D001             LCH80100010001000100 91312 91312 000000DECFILE11A

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: LCH801
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  91312
  Expiration Date:  91312
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: DECFILE11A

HDR2D0204800260                     M            00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
```

```
  Record Length: 00260
  Offset Length: 00

HDR300000002000000000001000000000000000001000000000000000000000000000

HDR4                                                                  00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 1.

************ Tape Mark ***************

EOF1D001            LCH80100010001000100 91312 91312 000001DECFILE11A

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: LCH801
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  91312
  Expiration Date:  91312
  File Accessibility:
  Block Count: 000001
  Implementation Identifier: DECFILE11A

EOF2D0204800260                    M            00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

EOF300000002000000000001000000000000000001000000000000000000000000000

EOF4                                                                  00

************ Tape Mark ***************

HDR1D001G001        LCH80100010002000100 91312 91312 000000DECFILE11A

  Label Identifier: HDR1
  File Identifier: D001G001
  File Set Identifier: LCH801
```

File Section Number: 0001
File Sequence Number: 0002
Generation Number: 0001
Generation Version Number: 00
Creation Date: 91312
Expiration Date: 91312
File Accessibility:
Block Count: 000000
Implementation Identifier: DECFILE11A

HDR2D0204800260 M 00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

HDR3000000020000000000010000000000000000010000000000000000000000000

HDR4 00

********** Tape Mark **********

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 2.

********** Tape Mark **********

EOF1D001G001 LCH80100010002000100 91312 91312 000002DECFILE11A

Label Identifier: EOF1
File Identifier: D001G001
File Set Identifier: LCH801
File Section Number: 0001
File Sequence Number: 0002
Generation Number: 0001
Generation Version Number: 00
Creation Date: 91312
Expiration Date: 91312
File Accessibility:
Block Count: 000002
Implementation Identifier: DECFILE11A

EOF2D0204800260 M 00

Label Identifier: EOF2
Recording Format: D

Block Length: 02048
Record Length: 00260
Offset Length: 00

EOF300000002000000000001000000000000000000100000000000000000000000000

EOF4 00

********** Tape Mark **********

HDR1D001R002 LCH80100010003000100 91312 91312 000000DECFILE11A

Label Identifier: HDR1
File Identifier: D001R002
File Set Identifier: LCH801
File Section Number: 0001
File Sequence Number: 0003
Generation Number: 0001
Generation Version Number: 00
Creation Date: 91312
Expiration Date: 91312
File Accessibility:
Block Count: 000000
Implementation Identifier: DECFILE11A

HDR2F0204800128 M 00

Label Identifier: HDR2
Recording Format: F
Block Length: 02048
Record Length: 00128
Offset Length: 00

HDR300800001000000000001000000000000000000080000000000000000000000000
HDR4 00
********** Tape Mark **********

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 8.

********** Tape Mark **********

EOF1D001R002 LCH80100010003000100 91312 91312 000008DECFILE11A

Label Identifier: EOF1
File Identifier: D001R002
File Set Identifier: LCH801
File Section Number: 0001

```
  File Sequence Number: 0003
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  91312
  Expiration Date:  91312
  File Accessibility:
  Block Count: 000008
  Implementation Identifier: DECFILE11A

EOF2F0204800128                    M            00

  Label Identifier: EOF2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

EOF300800001000000000001000000000000000000800000000000000000000000000

EOF4                                                                    00

************ Tape Mark ***************

HDR1D001T003         LCH80100010004000100 91312 91312 000000DECFILE11A

  Label Identifier: HDR1
  File Identifier: D001T003
  File Set Identifier: LCH801
  File Section Number: 0001
  File Sequence Number: 0004
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  91312
  Expiration Date:  91312
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: DECFILE11A

HDR2D0204800260                    M            00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

HDR300000002000000000001000000000000000000100000000000000000000000000

HDR4                                                                    00
```

```
************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 3.

************ Tape Mark ***************

EOF1D001T003          LCH80100010004000100 91312 91312 000003DECFILE11A

  Label Identifier: EOF1
  File Identifier: D001T003
  File Set Identifier: LCH801
  File Section Number: 0001
  File Sequence Number: 0004
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  91312
  Expiration Date:  91312
  File Accessibility:
  Block Count: 000003
  Implementation Identifier: DECFILE11A

EOF2D0204800260                     M             00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

EOF3000000020000000000010000000000000000010000000000000000000000000000

EOF4                                                                    00

************ Tape Mark ***************

************ Tape Mark ***************

############ End of Volume LCH801 ###############

############ End Of Tape File Set ###############

Deallocating /dev/rmt0...

Tape Import Process terminated with 1 error(s), 0 warning(s),
and 0 note(s).
```

9.3 Tape File Set Validation Log

```
CALS Test Network File Set Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    MIL-R-28002 (1989) - Raster Graphics Representation In Binary
                         Format, Requirements For

Mon Jan 20 08:42:57 1992

MIL-STD-1840A File Set Evaluation Log

File Set: Set050

Found file: D001
Creating directory => /cals/tapetool8/Set050/D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: LSL TECHDATA
srcdocid: LCH89-081
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19911108
dstsys: NONE
dstdocid: LCH89-081
dstrelid: NONE
dtetrn: 19911108
dlvacc: NONE
filcnt: G1, R1, T1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: TECHNICAL MANUAL
docttl: SPECIAL CONTROL PANEL


Found file: D001G001
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: LCH89-081
dstdocid: LCH89-081
notes: NONE

Saving DTD Header File: D001G001_HDR
Saving DTD Data File: D001G001_DTD

Found file: D001R002
```

```
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: LCH89-081
dstdocid: LCH89-081
txtfilid: W
figid: 1
srcgph: SCP
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 002139,001521
rdensty: 0300
notes: SPECIAL CONTROL PANEL

Saving Raster Header File: D001R002_HDR
Saving Raster Data File: D001R002_GR4

Found file: D001T003
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: LCH89-081
dstdocid: LCH89-081
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE

Saving Text Header File: D001T003_HDR
Saving Text Data File: D001T003_TXT

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

10. Appendix B - SGML Parser Logs

10.1 XGML Parser Log

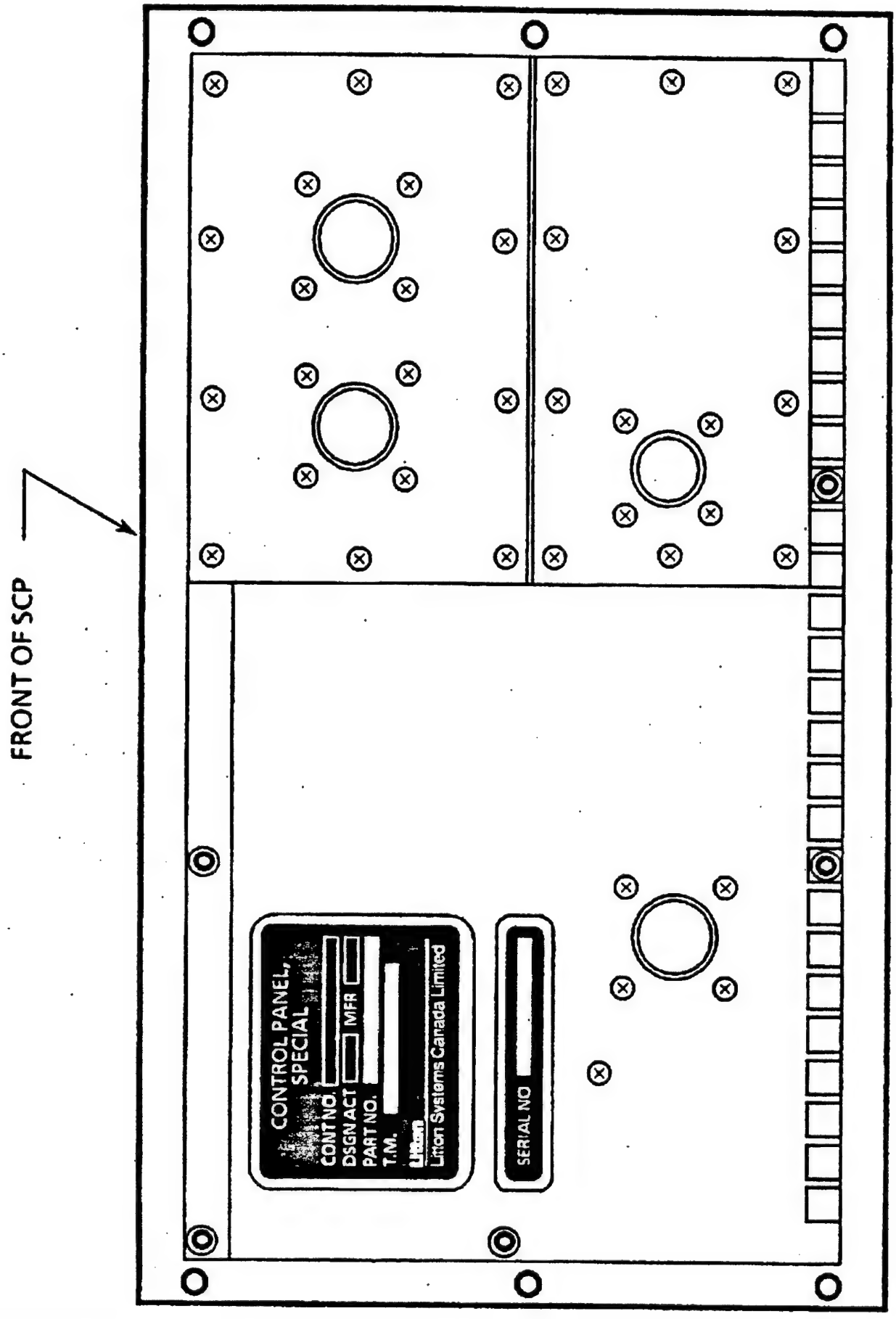
No errors were reported.

10.2 DataLogics Parser Log

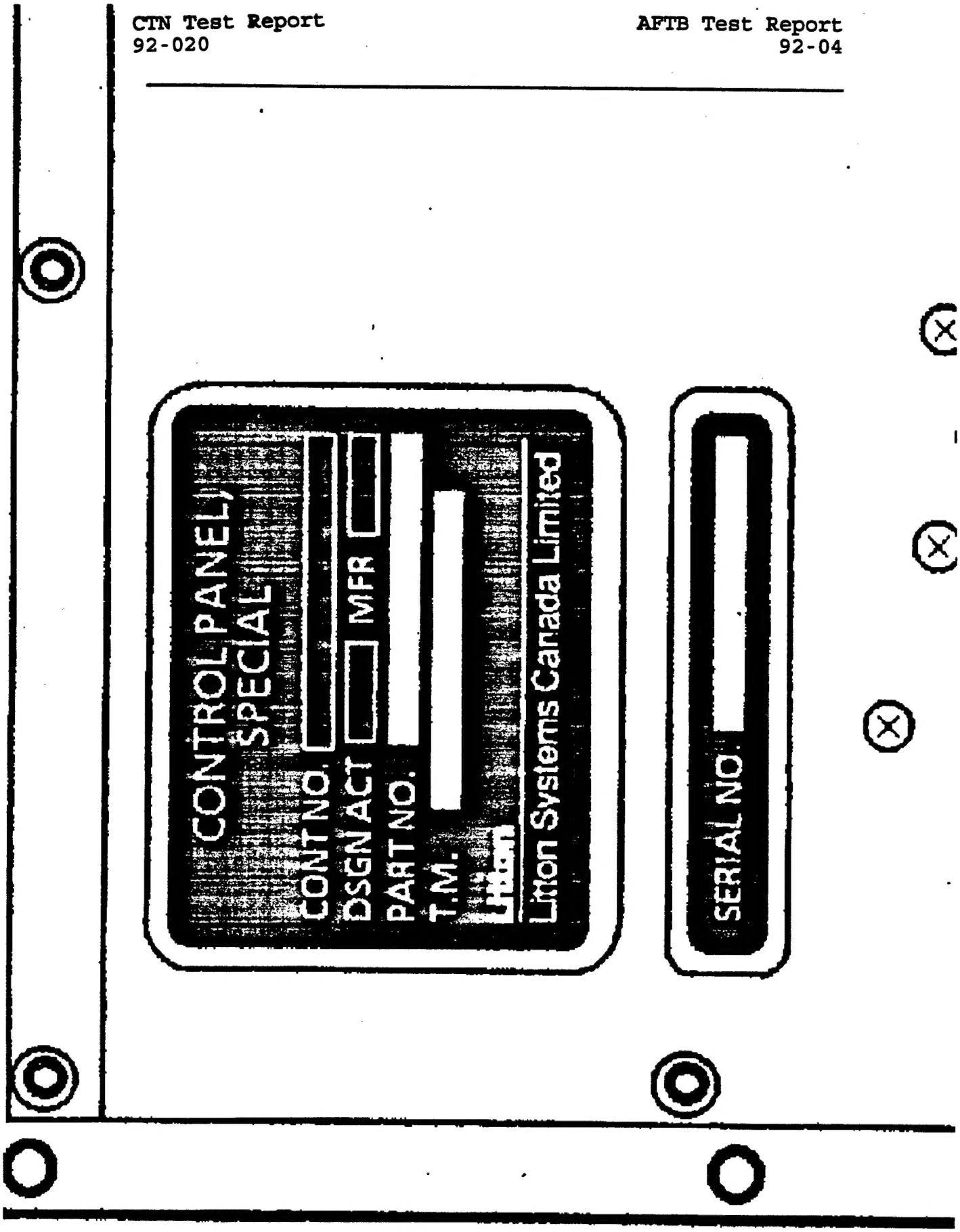
No errors were reported.

11. Raster Hard Copy

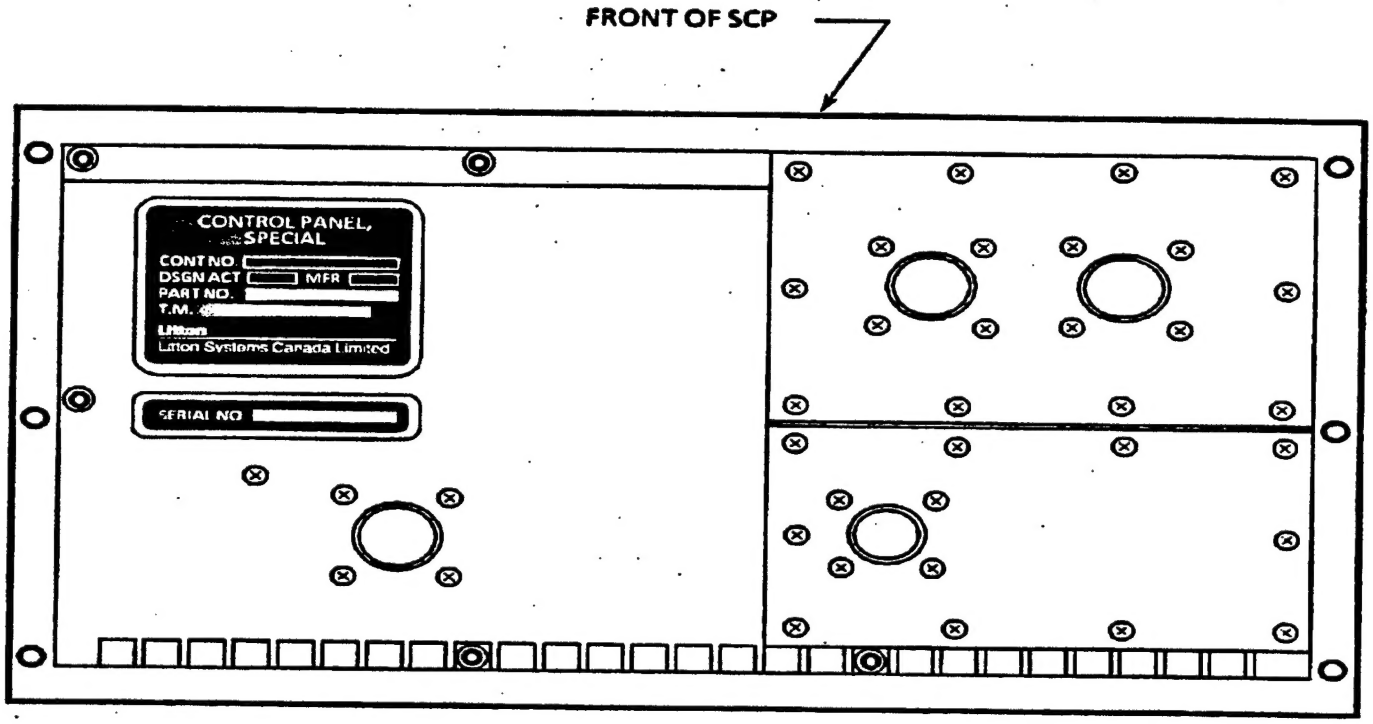
11.1 Preview - Entire Image


FRONT OF SCP
CONTROL PANEL, SPECIAL
CONT NO.
DSGN ACT
MFR
PART NO.
T.M.
Lmon Systems Canada Limited
SERIAL NO

11.2 Preview - Detail View


CONTROL PANEL
SPECIAL
CONT NO.
DSGN ACT
MFR
PART NO.
T.M.
Limon Systems Canada Limited
SERIAL NO.

11.3 Harvard Graphics 3.0 - Entire Image


FRONT OF SCP
CONTROL PANEL,
SPECIAL
CONT NO.
DSGN ACT
MFR
PART NO.
T.M.
Litton Systems Canada Limited
SERIAL NO